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Environmental justice: Challenges of contaminated site cleanup in rural AK

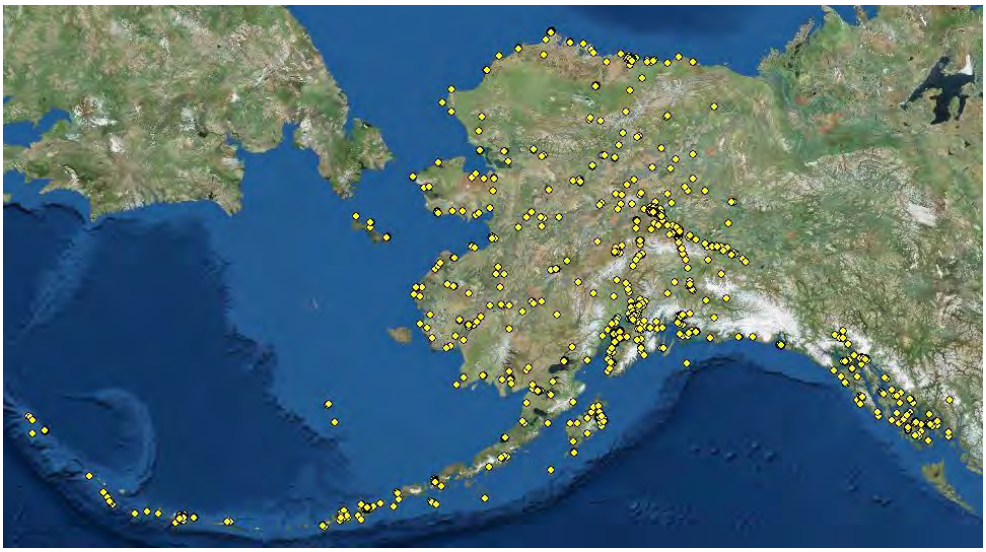
Paula Williams and Pamela Cravez

While working in Western Alaska a decade ago, residents of Elim, a small village near Nome on the Bering Sea, told Paula about how they had stopped fishing and hunting near an abandoned military site. When the military closed the site, they dug a big hole and buried everything. Now, the fish in the river and animals near the abandoned site "were no longer healthy and were unsafe to eat," one resident told Paula.

A shorter version of this article appeared in the Summer 2018 print edition.

At the time, efforts to clean up hazardous wastes left by the abandoned military site at Moses Point had been going on for more than 20 years. Cleanup continues today.

Rural communities in Alaska, which rely greatly upon the environment for their livelihood, are disproportionately impacted by environmental contamination. These communities also struggle more to get the resources to have contaminated sites cleaned.



Contaminated sites in Alaska, FY 2017. Contaminated Sites Database, Alaska Department of Environmental Conservation (http://dec.alaska.gov/spar/csp.aspx).

Most of these properties are in remote locations. Cleanup projects that are begun may take many years to complete due to the complicated nature of each site, according to the U.S. Army Corps of Engineers (USACE, 2015).

Alaska is ranked third in the U.S. for Formerly Used Defense Sites (FUDS) properties, most of which are in remote locations.

Alaska is ranked third in the United States for the number of properties eligible for cleanup under the Formerly Used Defense Sites (FUDS) program. Many of the properties were contaminated during World War II, or during the Cold War, when the long-term effects of chemicals were not understood, and the accepted means of disposal was to bury or abandon anything that was too expensive to transport out of Alaska.

▸ Superfund and FUDS

In the 1980s, Congress created programs such as the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), also known as Superfund, and the Formerly Used Defense Site (FUDS) program, to provide oversight, coordination, and funding to address abandoned or uncontrolled hazardous waste from military, civilian, commercial and other sources. However, the breadth, complexity and cost of cleanup is no match for funds available, especially in rural Alaska (Hogan, Christopherson, & Rothe, 2006; EPA, 2018a; USACE, n.d. (b)).

As of the end of 2017, the U.S. Army Corps of Engineers had spent about $980 million on FUDS investigation and cleanup work, according to John Budnik, Public Affairs Specialist with the U.S. Army Corps of Engineers — Alaska District. The estimated cost for cleanup of all remaining known FUDS projects in Alaska is $1.4 billion. Funding for 2018 is $35 million, according to Budnik, who provided the following accounting of FUDS properties.

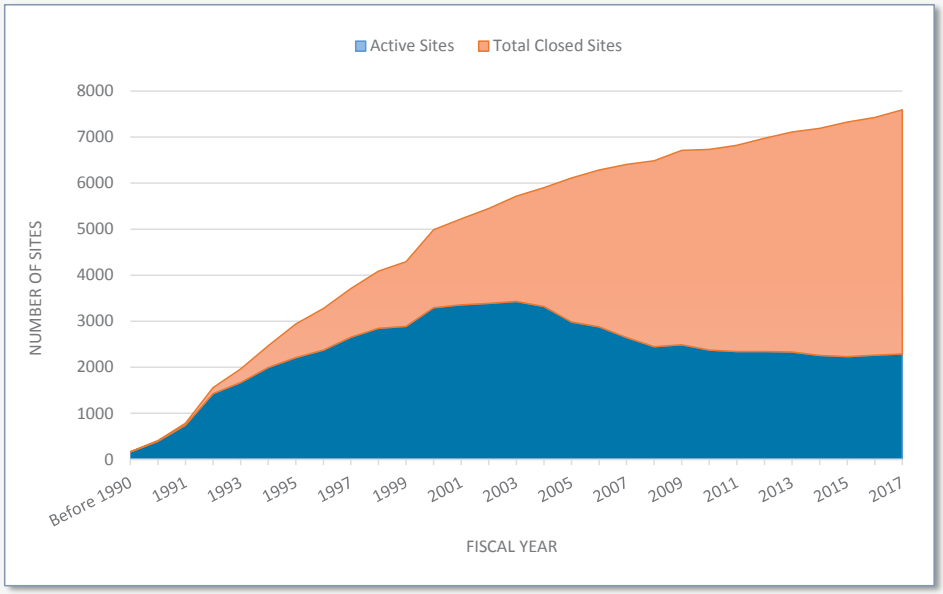
- 535 Formerly Used Defense Site properties in Alaska
- 137 eligible for cleanup*
- 73 properties closed
- 64 properties open, each with multiple projects
- 175 projects identified

*FUDS covers only lands that were transferred out of Department of Defense (DoD)

control prior to October 17, 1985 and contamination was caused during the DoD timeframe of use. Cleanup of lands still owned by the federal government or civilian agencies that were never used by the DoD are under that agency's jurisdiction for cleanup.

Figure 1. DEC accounting of contaminated sites in Alaska

6.2.1 Chart 1: Cumulative Active and Closed Sites



Source: Alaska Department of Environmental Conservation (DEC), *Spill Prevention and Response Division Integrated Annual Report: Fiscal Year 2017 (FY17)*, p. 54.

▸Multiple projects and parties

It is difficult to get a handle on the scope of contaminated sites in Alaska. The Alaska Department of Environmental Conservation (DEC) is responsible for overseeing cleanup of contaminated sites. The DEC database includes Formerly Used Defense Sites as well as sites being cleaned up by other federal, state, and local agencies, private companies, nonprofits, and individuals in Alaska. However, a site may be a Superfund site, such as Adak, with 403 files. A site could also be just one file, documenting the removal of an underground fuel tank on residential property. In addition, multiple parties may be responsible for cleanup of a site, with the site remaining open until all parties have finished the cleanup to levels approved by DEC.

"[T]here is now a future and perhaps imminent risk of contaminants migrating from several contaminated source areas at Moses Point into adjacent surface water." — DEC

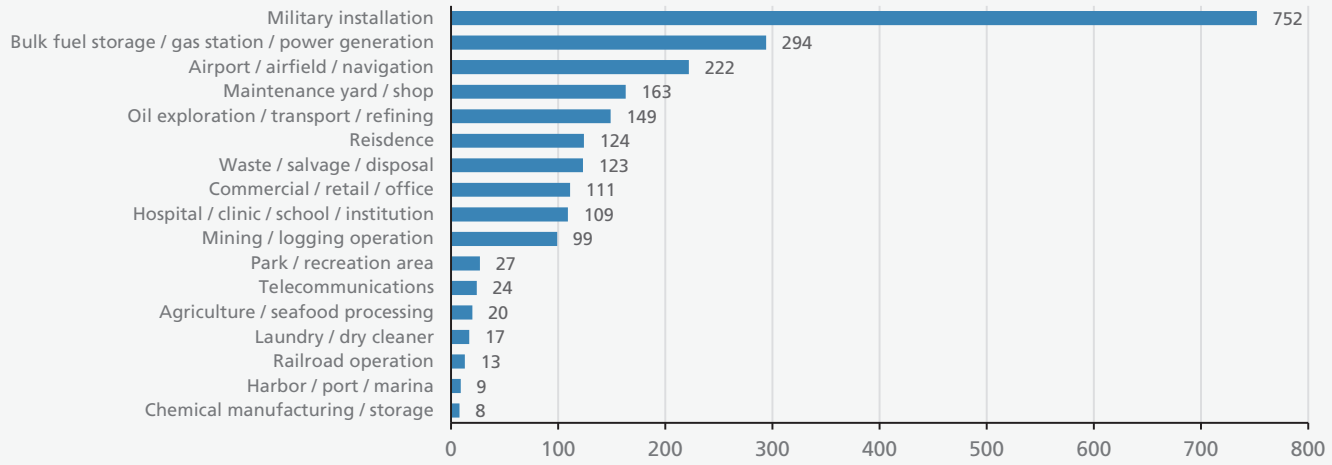
A good example of how difficult it is to assess the extent of contaminants is Moses Point. Cleanup at Moses Point began in 1985, under the Formerly Used Defense Sites Program (FUDS). Rusted out asphalt drums had been oozing their contents onto the bank of Devil's Slough for years. Polychlorinated biphenyls (PCBs), asbestos, solvents, antifreeze, tar waste, and soil contaminants including fuel and metals were detected. The site was closed in 2006 (DEC, 2006) per FUDS and DEC standards.

▸FUDS closure but site still open

In 2007, Elim residents told a reporter from the *Washington Post* that they didn't believe the cleanup had been effective. Former Elim Mayor Paul Nagaruk noted that many of the elders who had lived near Moses Point, an important Inupiat Eskimo fishing site, had died of cancer. "Another camp nearby didn't have access to Moses Point. They lived a lot longer and died of natural causes," Nagaruk said (Lee, 2007).

While the FUDS cleanup has ended at Moses Point, two more cleanups are still open, one opened in 1999 another in 2010, with the Federal Aviation Administration (FAA) taking responsibility for these. The file reflects that the contaminants currently being addressed are from the WWII Army Garrison

Figure 2. Active contaminated sites in Alaska by category, FY17



Source: Alaska Department of Environmental Conservation (DEC), *Spill Prevention and Response Division Integrated Annual Report: Fiscal Year 2017 (FY17)*, p. 58.

Superfund Program criteria for selecting a remedy

CERCLA requires USACE to evaluate a elected remedy using nine criteria that include overall protection of human health and the environment, compliance with applicable requirements (cleanup levels), long-term effectiveness and permanence, short-term effectiveness, reduction in toxicity/mobility/volume through treatment, implementability, costs of cleanup, community acceptance, and state regulatory acceptance. These criteria must be "balanced" when picking a remedy, Geist said. These criteria must be "balanced" when picking a remedy, according to Lisa Geist, Acting FUDS Program Manager for the U.S. Army Corps of Engineers in Alaska. The nine criteria are part of the National Contingency Plan (40 CFR 300.430(e)(9)).

The national goal of the remedy selection process is to select remedies that are protective of human health and the environment, that maintain protection over time, and that minimize untreated waste. The nine evaluation criteria are as follows:

▶ Threshold criteria

1. Protect human health and the environment
2. Comply (attain or waive) with other federal and state law — applicable or relevant and appropriate requirements.

▶ Balancing criteria

3. Long-term effectiveness and permanence
4. Reduction of waste toxicity, mobility or volume
5. Short-term effectiveness
6. Implementability
7. Cost

▶ Modifying criteria

8. State acceptance
9. Community acceptance

(40 CFR 300.430(a)(1)(i)); Walker, 2009)

at Moses Point. The current cleanup is on land owned by the FAA and therefore the responsibility of that agency.

In 2015, DEC noted that it "believes there is now a future and perhaps imminent risk of contaminants migrating from several contaminated source areas at Moses Point into adjacent surface water." (DEC, 2018b). As of May 31, 2018, DEC continued to have concerns about contaminants at Moses Point. The agency is working with the FAA on finalizing a cleanup plan (DEC, 2018b).

As cleanup of Moses Point continues, so too does exposure to contaminants among people, plants and animals in the area. (See "Long-term impacts of environmental contaminants are 'generational game changer'," p. 7).

▶ DEC closed sites vs. open sites

DEC has identified more than 7,600 contaminated sites in the state, with more added each year. Since 1990, over 5,300 sites have been closed. More than 2,200 sites remain open (DEC, 2017: 54; see Figure 1). Closed sites include those cleaned to a level that provides for unrestricted use or closed with "institutional controls" such as deed restrictions.

One third, 33 percent, of open sites are from military installations (752) including abandoned and active. Other top active sites are from bulk fuel storage and gas stations, airport and airfield, maintenance facilities, and oil exploration, transport and refining (Figure 2). It is difficult to do a direct comparison of FUDS properties and DEC sites. Properties, projects, and sites have different names in different databases.

Many of these sites are in rural Alaska where transportation challenges, sparse population, and short summer work season hinder cleanup.

▶ Assessing risk

With so many projects, it is necessary to prioritize work, according to USACE's Geist. Once a year, USACE FUDS project personnel meet with the DEC to jointly prioritize projects. Projects are ranked high, medium, and low for the risk they pose to human health and the environment. Resources are focused on sites ranked as high priority. There are more than 500 high priority sites (Figure 3).

Figure 3. Progress on high priority contaminated sites in Alaska, FY17

6.2.1 Chart 2: Progress on High Priority Sites

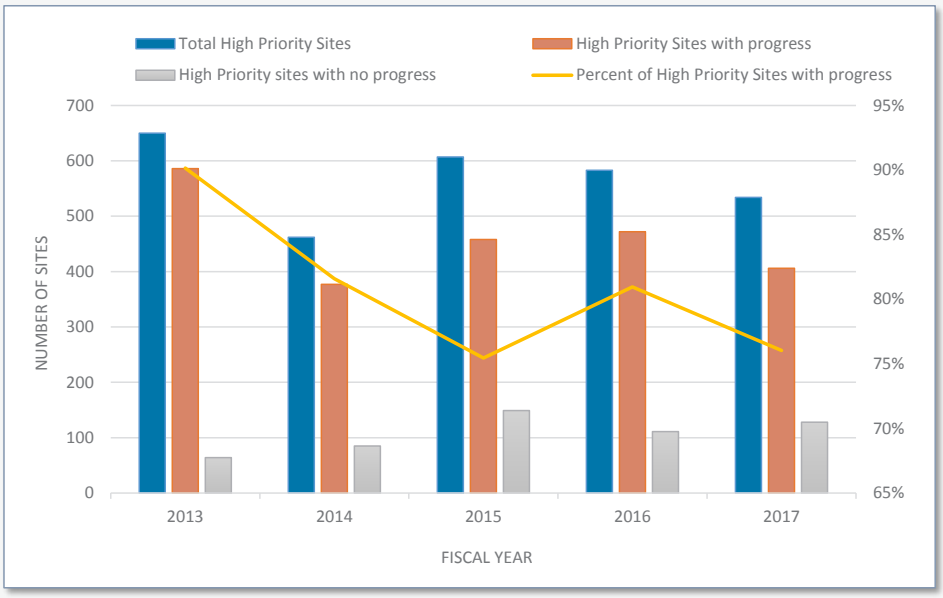


Chart two depicts the number of high priority sites over the past five years, and those which had measureable forward progress to address site risks.

Source: Alaska Department of Environmental Conservation (DEC), *Spill Prevention and Response Division Integrated Annual Report: Fiscal Year 2017 (FY17)*, p. 56.

Closed sites include those cleaned to a level that provides for unrestricted use or closed with "institutional controls" such as deed restrictions.

It is difficult for DEC to provide an estimate of what it would take to cleanup all known sites in Alaska since there are so many variables involved in cleanups and the scope of known contaminated sites continues to grow.

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Pamela Cravez, J.D., M.F. A., is editor of the Alaska Justice Forum.

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Cleanup in rural Alaska is expensive and complicated

Laws governing environmental cleanup have three stages: Identification, assessment, and remediation. When comparing similar sites in remote and urban areas, each step is more expensive and complicated if the site is remote.

"If funds are available, the cleanup usually happens quickly — if they are not, it delays how quickly cleanup happens," according to Lisa Griswold, Environmental Specialist with the Alaska Department of Environmental Conservation (DEC).

The cost of cleanup can impact the timeline and thoroughness of cleanup as well. It is usually more expensive to clean a site to a level needed for unrestricted use than a level with institutional controls that limit future exposure to residual contaminants.

Remoteness is a big factor, Griswold said.

On-site treatment may be feasible for some contaminants, but certain hazardous wastes cannot go to a landfill in Alaska, according to Griswold. Not only is it expensive to transport contaminants out of rural Alaska, it is expensive to transport remediation specialists, equipment and supplies into remote locations.

▶Liability and costs of cleanup

The owner or occupant of land on which contamination occurs is strictly liable for release of hazardous substances (AS §46.03.822). Current owners/operators, along with past owners/operators, can be held liable, either separately or together.

Small rural communities typically have fewer financial and human resources to address remediation issues. If the contamination is caused by a local business, the community may be reluctant to bring the problem to the attention of regulatory agencies. The concern may be that costs to the owner could close the business or reduce the number of community members that it employs.

Some of the land conveyed to Alaska Native corporations as part of the Alaska Native Claims Settlement Act (ANCSA) was contaminated before transfer. It is only within the past year that Alaska Native corporations were exempted from liability for contamination on these lands.

▶Financing assessment and remediation

If a responsible party cannot be located or afford to pay for the cleanup, DEC may, under certain circumstances, step in and provide funding, according to Griswold.

"We need to show there is a real threat to health or the environment. Either an ongoing release, current exposure, or a threatened release," Griswold said.

▶Federal funds

The EPA's Brownfield Program provides some funds to support redevelopment or reuse of property which may be complicated by the presence of contaminants. Although Congress increased the limits on certain categories of funds for cleanup this year, no extra money has been given to the program to support the increases. "The largest projects in a given year are usually not more than $100,000," according to Griswold (EPA, 2018c). (See "Expanded Brownfields Program supports redevelopment in Alaska," p. 10.)

The Department of Defense established the Native American Lands Environmental Mitigation Program (NALEMP) to address contamination and adverse impacts to tribal lands or trust resources from past military activities (USACE, n.d. (a)). Entities eligible for help include Native Corporations, federally recognized tribes, and local governments.

While guidance and funds are available to address remediation of contaminated sites in Alaska, funding falls far short of the need.

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